USAWC STRATEGY RESEARCH PROJECT

THE JOINT INTERDEPENDENCE OF DISTRIBUTED OPERATIONS

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Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
18 MAR 2005		-

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
The Joint Interdependence of Distributed Operations	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
Darrell Thacker, Jr.	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
U.S. Army War College,Carlisle Barracks,Carlisle,PA,17013-5050	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT
See attached.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**		**25**	

ABSTRACT

AUTHOR: Lieutenant Colonel Darrell L. Thacker, Jr.

TITLE: The Joint Interdependence of Distributed Operations

FORMAT: Strategy Research Project

DATE: 21 Jan 2005 PAGES: 25 CLASSIFICATION: Unclassified

The U.S. Marine Corps is developing a new warfighting concept known as Distributed Operations. While this concept is still in development and experimentation, it shows great promise in providing flexible and agile response to 21st century battle space challenges. The Distributed Operations concept envisions the deployment of units across a theater battle space to engage enemy forces. These units would be connected via command and control systems to carry out assigned missions, employ fire support assets, and request logistics support. If required, these teams would then coalesce into formally structured infantry units to employ conventional infantry skills. These units could then be employed in conventional combat operations or stability and security operations. This battlefield concept provides a rapid, flexible and agile tool to cover a battle space while creating challenges for any potential adversary. To realize the full joint potential of this concept several key areas of friction must be resolved. Specifically, the integration of these forces into the theater level fire support system and logistics network needs to be addressed. This research paper will explore how distributed operations can employ joint interdependent theater fires and logistics in pursuit of theater missions. Possible courses of action involving joint interdependence will be proposed and a recommendation made on how these two challenges can be effectively dealt with.

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THE JOINT INTERDEPENDENCE OF DISTRIBUTED OPERATIONS

The dawn of the 21st century brings new challenges to the United States and the United States military as a tool of national power. The threats have become more asymmetrical as non-state actors, utilizing irregular tactics to achieve goals via catastrophic or disruptive attacks, now populate the international arena. September 11, 2001 and the Global War on Terrorism (GWOT) are reflections of this new volatile, uncertain, complex, and, ambiguous threat environment. Into this new reality steps a United States military force structured for conventional military operations that must now pursue non-state adversaries executing asymmetrical operations. To their credit, United States military forces have adapted and are being successful in seeking out and destroying the nation's enemies along with transitioning to Stability and Security Operations that have become inherent in rebuilding a nation after a conflict. However, looking towards the horizon, there still looms the potential for a state actor to engage the nation in conventional combat while the GWOT is pursued to completion. Further complicating this situation is the ongoing transformation effort initiated within the Department of Defense to increase the military's effectiveness by fielding new equipment, doctrine, and warfighting concepts. How does the United States military address the asymmetric and conventional threat while also transitioning in stride to new transformational technologies?

One new concept that offers increased operational capability and agility is called distributed operations. This new concept has potential to offer increased combat capability in efficient packages utilizing joint interdependence to ensure survivability and sustainability. The concept is based on the utilization of ground combat units distributed across a battle space, but hooked into a distributed command and control network which facilitates supporting arms fires and logistics support to enable the unit to control a section of the battle space. The units can operate separately on the battlefield or coalesce into a larger conventional unit as needed. While there is still discussion on the exact size and makeup of such a unit, along with the required training, it is the ability to support by fire and sustain any such force that appears to be the consistent points of operational employment friction. The command, control, and communications technology to support and sustain such a force is advanced enough to field equipment capable of supporting this concept. How the command and control network is structured to support the concept, however, may offer the biggest challenge. Distributed operations would appear to offer increased flexibility to national civilian leadership and combatant commanders by being useful in both conventional and unconventional combat. Rapidly deployable, strategically responsive forces provide flexibility and responsiveness in

support of national interests. The ability to project multi-dimensional power across a battle space allows combatant commanders to achieve operational surprise and possibly resolve an issue before major joint task forces are committed to a conventional conflict. This distributed force employment enables the seizing of multiple objectives simultaneously, which is a force multiplier in the opening phase of any forcible entry operations, and it complicates the enemy's ability to respond and defend.

The potential of distributed operations is directly reliant upon the training and superb education of the all-volunteer military. This professional force, combined with new technologies, and the complimentary capabilities offered by joint interdependence, offers a unique opportunity to apply a distributed operations concept across a larger theater battle space to quickly achieve strategic and operational objectives and realize national goals. This concept, while not formally labeled "distributed operations," was employed during the 20th century. The chief obstacle to maximizing these previous employments was the contemporary technology shortfall in providing the tools for controlling fire support and logistically sustaining forces distributed across their respective battle spaces.

HISTORICAL CONTEXT

Military operations remarkably similar to distributed operations have been attempted by nations during the 20th century. These early attempts are better described as deep patrols or infiltrations and were dictated primarily by the terrain, enemy tactics, available weapons systems, and nature of the conflict. One illustrative conflict was an insurgency and another was conventional in nature. In both cases the existing technology did not efficiently support command, control, and communications, fire support, and logistics. These key shortfalls limited the operational reach of units and hampered sustained combat operations. The first example is the United States Marine Corps participation in the so-called "Banana Wars" or police actions carried out in Haiti and Nicaragua during the 1920s.

Following World War I the U.S. Marine Corps found itself employed in the countries of Haiti and Nicaragua supporting these two governments and protecting United States interests and citizens. These two nations were each waging counter insurgency campaigns, but having difficulty defeating the insurgents. The Marine Corps was sent in to train and lead the fledgling military forces, or *Guardia Nacional*, in both countries against rebel forces. To retain the initiative and keep insurgents off balance, the Marine Corps employed company-sized units in far ranging offensive patrols. These patrols were executed beyond any existing command and control system, except couriers. The nature of the terrain and enemy capabilities dictated that

the Marine units travel light and fast. There were no supporting arms available to help fix and destroy the enemy forces. Infantry units employed rifles and machineguns during the bulk of the fighting. Additionally, there was no established host national or service logistics support in either country. Units lived off the land while patrolling and each company commander worked out supply issues at the local level in garrison. This combination of decentralized execution, mobility, and aggressive movement to contact patrolling kept the insurgents off balance and enabled concentrations of force at the proper place and time to attack insurgent camps.

Innovation arose out of the conflict due to its uncertain nature and the challenges of combining limited warfare with nation building. First, the Marine Corps introduced limited aviation operations with World War I surplus Jenny aircraft to carry out reconnaissance, aerial bombing, and some medical evacuations from units deep in country that were engaged in fighting. These fledgling steps integrating Marine aviation into combat operations were unique to local commanders directly involved, like Lieutenant Chesty Puller, and were not organizational standards or initiatives. However, these combat expedients did not go totally unnoticed by the institution. These early efforts would be later recalled and developed during World War II. The major organizational achievement resulting from these two "policing actions" was the codification and writing of the U.S. Marine Corps *Small Wars Manual.* The manual emphasized, "small wars are operations undertaken under executive authority, wherein military force is combined with diplomatic pressure in the internal or external affairs of another state whose government is unstable, inadequate, or unsatisfactory for the preservation of life and of such interests as are determined by the foreign policy of our Nation."[1] In addition to affirming armed conflict as a tool to be used in conjunction with diplomacy and other state tools, this manual captured the many lessons learned along with tactics, techniques, and procedures inherent in executing distributed military operations in a counter insurgency conflict. Despite the shortfalls of the existing technology, doctrine, and training in the 1920s, these far-ranging patrolling operations were a successful precursor to distributed operations.

The second conflict was conventional and defensive in nature. It was waged in a colder climate composed primarily of mountainous and forested terrain. This conflict was the Soviet - Finnish War of 1939-40. The Soviet Union invaded Finland in November 1939 expecting a relatively quick victory. The Finnish Army was smaller and not well equipped, but better led. This leadership, combined with innovation, enabled the Finnish to resist and nearly overcome a numerically superior Soviet force. The Finnish utilized company and battalion-sized units spread across the battle space to execute an offensive defense. They conducted what was referred to as *motti* operations.[2] The Finnish word *motti* refers to a pile of logs held in place by

stakes to be chopped or cut into convenient lengths. *Motti* tactics referred to the operational methodology applied by the Finnish to attack, surround, and decimate the road bound Soviet forces. This operational concept consisted of an initial extensive reconnaissance to locate and fix the enemy in place by limited action. The second phase was the concentration of available forces for sharp quick attacks to gain local superiority and attrite the enemy force further. The final phase was the detailed destruction of the remaining Soviet forces.[3] The Finnish Army utilized this effective system of attack and set up defensive points across the country from which they operated to attrite the Soviet forces. The Finnish wrestled with numerous issues as they spread out to execute operations and meet the invading Soviet forces well forward. The Finnish suffered from a shortage of artillery, aircraft, and logistics capabilities along with command and control gaps resulting from the distributed nature of the war. These constraints placed a heavy emphasis on individual and unit initiative, rapid movement, expert use of terrain and camouflage, quick concentration and dispersal of forces, and the agility to shift from a defensive to offensive mode on short fused actionable intelligence at the tactical level. The physical and technological constraints of the small Finnish Army were assisted by the terrain and climate of their country. The Finns adapted and utilized the terrain and the weather to their advantage to offset numerical and technological shortfalls. The Soviet forces never fully adapted to the terrain, weather, or tactics of their Finnish opponents. The results were huge losses in manpower and equipment for the Soviet forces. However, the Soviets could replace their losses, the Finns could not. Despite innovative leadership, excellent use of available assets, and interior lines, the shortages in men and material eventually resulted in the Soviets wearing the Finnish forces down through sheer weight of numbers. The advantages of a force utilizing a distributed operations concept were hindered in application due to the capability of existing technology to support the concept. The Soviets benefited from this technology deficit and utilized traditional techniques of massed fires and forces to defeat a smaller fragmented force.

Both cited examples of distributed operations were Service-centric in views and applications due to the nature of the conflicts and limited level of inter-Service cooperation. While there were no joint, interdependent capabilities per se during these two time periods, they both provide some insights for application today. First, the distributed operations concept has merit and application for both conventional and unconventional operations due to the flexibility inherent in the utilization of forces. Second, the concept is dependent on units that are well trained and well led. Third, history substantiates that fire support must be available to ensure survivability of the unit and ensure its effectiveness against larger enemy units. Fourth, logistics support to the unit in the field is critical to sustaining the force in the field. Lastly, modern,

reliable technology is required to facilitate the concept and get it over the primary obstacles of command and control of fires and sustainment that hindered the effectiveness of earlier employments of distributed operations.

ASSUMPTIONS

To address the two critical friction points hampering distributed operations in the 21st century, logistics and fire support, a few assumptions must be stated up front. First, joint interdependence will be ongoing and becoming the norm across the United States military. Second, technology will continue to refine and provide better tools for use by United States forces. Third, no near-term peer competitor is likely to emerge to challenge United States access to the commons of sea, air, or space. Fourth, the military and forcible entry will continue to be military tools of national policy.

DISTRIBUTED OPERATIONS FIRE SUPPORT

Fire support is critical to the preparation of an objective area, covering the insertion of a force, and supporting its maneuver and survivability. Aircraft, missiles, or indirect fire assets, like artillery or Multiple Launch Rocket System, can provide the fire support. The technology to do this exists today and is improving in range, accuracy, and lethality. The expansion of the battle space and engagement envelopes raises the issue: who controls, de-conflicts, and sets the priorities of fires when fire support assets are limited or task-saturated?

The United States military Services are more interdependent than any time in their history. This is especially true in the area of fire support. The joint force commander has component commanders who provide their expertise and staffs to facilitate control of the respective Services fire support assets in the joint force. These assets are tasked via various doctrinal commands and agencies like the Joint / Combined Forces Air Component Commander (J/CFACC). Not surprisingly, in distributed operations ground units could also be supported via the established processes that developed and matured within the Services. However, these procedures are optimized for the Services and historically have been deconflicted rather than totally integrated or interdependent. United States Joint Forces Command is currently evaluating the integration and synchronization of joint fires along with building and maintaining the Joint Battle Management Command and Control (JBMC2) roadmap to ensure common command and control standards are implemented across all Services.[4] This joint fires and JBMC2 evaluation is examining the current doctrine and structure of fire support across all Services. It is also examining the lessons learned from recent combat operations in Operation Enduring Freedom and Operation Iraqi Freedom. The end state is to produce the doctrine,

procedures, and technologies to enable improved joint interdependent and integrated fires provided in a timely manner to prosecute targets.[5] This joint fires initiative will provide the foundation for a tactical to operational framework and automated access necessary for distributed operations units to access land, naval, and air forces sensors, data, and fire support assets. This technological capability to access and control fires is a critical enabler for distributed operations. This access to fires is currently built upon the Joint Task Force Wide Area Relay Network (JTF WARNET) capability resident in the Automated Deep Operations Coordination System (ADOCS). JTF WARNET enables a joint theater fires network linking tactical to operational levels for targeting.[6] This path will increase joint fires situational awareness, efficiency in application of fires to the target, and reduce fratricide potential by each firing unit and end user being identified on a unified fires network in a collaborative manner. Units will be networked so that whichever unit is in contact and requires fire support can leverage all joint fires capabilities to fight and win.

The joint Force Fires Coordination Center (FFCC) currently advises priorities, plans, integrates, synchronizes, and coordinates fires from a central command perspective.[7] In its current form it does not control fires execution directly. Rather, it is a decentralized execution of fires that the FFCC monitors. This approach will need to be modified to include a more active participation in fires in a distributed operations environment. The FFCC would have to act as the senior fire support coordination center and control all fires being executed so that it could interject missions, make corrections, change priorities, and initiate check fires for potential fratricide situations. The FFCC must mature into a theater wide hub for fires planning and execution to facilitate total integration and synchronization of all joint fires assets.

The JBMC2 initiative, and associated technology, will enable access for distributed operations units in the field to access the JTF WARNET and for the FFCC to maintain visibility of these units. The joint fires initiative being developed by Joint Forces Command is the proper avenue to achieve coordinated interdependent joint fires in support of distributed operations. All United States Services must continue their participation in these fire support and command and control initiatives to maximize the effectiveness of this developing system and leverage the interdependent fires capabilities and assets to support the distributed operations concept.

DISTRIBUTED OPERATIONS LOGISTICS

Joint interdependent logistics is what will allow the distributed operations concept to fully mature into a combat multiplier. Throughout history logistics has constrained military operations more than any other battlefield operating system. To overcome this constraint, logistics must be

operationally linked with maneuver to facilitate mission accomplishment and overcome the friction in getting the logistic support to the unit in the field over the last tactical mile. The logistics system must pursue interdependence to ensure collective efficiency and effectiveness. This collaborative effort should capitalize on the unique capabilities the Services already bring to the fight for overall logistics synergy while minimizing vulnerabilities. The United States Transportation Command, United States Air Force, Military Sealift Command and the United States Navy already provide strategic and operational logistic support to theater combat forces via air and maritime assets. Once delivered to a theater support node, the army is responsible for theater distribution and logistical support to all joint forces via the Theater Support Commands (TSC) down to the major subordinate command level like the Marine Expeditionary Force's Fleet Service Support Group (FSSG). From there the respective major command or service component supply systems and distribution network normally facilitates the final leg of the logistics delivery system to the individual unit. It is this final leg of the logistics train that must be included in the modernization and fielding of interdependent delivery technologies to support distributed operations.

Logistics support for distributed operations must be an integral component of any joint battlefield network. Units must be able to send or receive logistics-related information at any time and from any location. This information would immediately become a data point within the logistics component of the JBMC2 system for the theater and respective service logisticians to access and track until the requirement is satisfied. This capability is currently fielded in a variety of stove-piped logistics systems, like the Asset Tracking Logistics and Supply System utilized by the Marine Corps, that must be manually correlated via the Global Combat Support System. To address this non-user-friendly stovepipe structure, LANDWARNET, a joint Army and Marine Corps initiative, is striving to ensure connectivity and interoperability of the currently fielded logistics systems, via the Battle Command Sustainment and Support System (BCS3), until such time that future joint interdependent logistics systems and technologies are fielded.[8]

Distribution is the operational process of synchronizing all elements of a logistics system to deliver the correct item at the correct place at the correct time.[9] To that end, the transformation end state in joint logistics is on focused logistics with in-transit visibility for just-in-time delivery.[10] These objectives reduce the requirement for large supply depots, ensure nothing is lost enroute, and reduces the reordering of not-received items that further bogs down the logistic system. The technology and tracking systems are being developed based on existing commercial off-the-shelf technology that will work well for items shipping from the United States into combat theater supply nodes run by the TSC. The logistical system packing

of by unit support bundles and pallets is achieving further efficiencies for units in the field. This initiative is achieving some success today in Operation Iraqi Freedom and will continue to improve as all logistics organizations migrate to more collaborative networks and systems that facilitate end to end visibility of the logistics system to track assets. The fielding of newer technology will eventually make the process more efficient, user-friendly, and interdependent.

The capability to collaboratively order and then track logistical requests is one part of the solution to logistics for distributed operations. Just-in-time delivery and in-transit visibility will utilize embedded micro sensors, or radio tags, to track the items and could even be applied down to the tactical level. The Defense Logistics Agency is already making great strides in this arena by applying this technology to rations, parts, and consumables. However, most commercial applicators of the existing technology, like United Parcel Service, do not have the concerns for force protection and concealing locations that a military unit would be worried about. A correct combination of frequency bands, encryption, and tamper-proof tags should resolve this concern. Once the force protection and operational security challenges are resolved for "tagging" items, then distributed units in the field should be able to access the BCS3 network and get a status on their resupply.

The delivery to the unit in the field over the "last tactical mile" is even more challenging when the unit is actually involved in combat operations. The tried-and-true methods of vehicle and aviation will be applicable at times when a unit is conducting more conventional operations. The helicopter, intratheater lift fixed-wing aircraft, and future vertical short take-off and landing (VSTOL) aircraft will all have a place in the distributed operations logistics structure to ensure timely delivery to the unit executing combat operations. There will be times when these delivery platforms would not be preferred, either due to the enemy threat or the desire of the unit conducting distributed operations to maintain a low visual and aural signature to facilitate force protection and mission accomplishment. Filling this delivery gap will be either conventional parachute resupply or a new concept known as Joint Precision Aerial delivery (JPAD). [11] This concept involves the use of a parachute delivery system dropped with a high-altitude offset capable of maneuvering for accurate drop zone delivery. Such a delivery system would enable distributed operation units to stay afield longer by delivering critical items like ammunition, batteries, and food. The final decision on the size of distributed operations units will drive total requirement numbers for JPAD acquisition.

The logistics techniques, procedures, and technologies described above should have little to no adverse impact on joint operations. In fact, they support and reinforce the seven logistics principles of responsiveness, simplicity, flexibility, economy, attainability, sustainability, and

survivability contained in Joint Publication 4-0.[12] For example, the Marine Air Ground Task Force (MAGTF) already possesses assault support helicopters and C-130s for intratheater lift and tactical delivery. In addition, the FSSGs already contain aerial delivery platoons that can train up on the JPAD to facilitate aerial delivery and the new joint collaborative tracking systems should improve current Service logistics capability. The biggest negative will be the costs associated with obtaining new logistics tracking equipment, JPAD systems, and the training associated with the new equipment. These costs are inherent in the transition to a new warfighting concept and must be absorbed if the new distributed operations concept is to reach its potential agility and flexibility on a nonlinear, noncontiguous battlefield. These procurement costs can be offset by maximum utilization of joint interdependent air, vehicle, and parachute delivery assets. The assets procured by the Marine Corps could be utilized by joint forces or reciprocate joint interdependence for other Service units.

COURSES OF ACTION

The Marine Corps has postulated two potential courses of action that are possible for distributed operations. The first course of action would be a "go it alone" strategy in developing the concept, doctrine, and equipment to facilitate the employment of distributed operations. This course of action would offer Service flexibility, joint redundancy in capability, and independence of action. However, this course of action would prove very expensive in funds, manpower, and duplicates efforts in some developmental arenas. It would also be counter to the movement to joint interoperability being embraced by all Services and mandated by the Department of Defense Transformation Planning Guidance. It is also doubtful this independent service approach would survive Office of the Secretary of Defense (OSD) or Congressional scrutiny during a time of increasing fiscal austerity.

The second course of action would be aimed at leveraging joint interdependence by participating in the joint fires and logistics initiatives being developed and fielded by the U.S. Army and Joint Forces Command. This approach is less expensive in funding, requires minimal manpower to implement, and would be more survivable when scrutinized by OSD and Congress. This course of action fully commits the Marine Corps to joint interdependence for the success of distributed operations by relying on the new network based joint fires initiative and the net centric focused logistics initiative being implemented across the Department of Defense.

The preferred course of action is the second one which brings benefits to the Marine Corps, and the joint Services overall, by keeping resources focused on developing joint interdependent systems and technologies to bring synergies for all Services in fires and

logistics. The second course of action brings the additional benefits of respective Services expertise which should expedite the development, implementation, and fielding of the new fire support and logistics concepts. The risks associated with this second course of action are if first, either the fires initiative or focused logistics capability are not fielded in a timely manner, and second, that all the Services future fires and logistics capabilities are tied to common systems. All Department of Defense fires and logistics capabilities would be thus necked down to a single system and, if that system has any internal failures or is successfully attacked by an adversary, it will negate the advantages of the single collaborative system and degrade distributed operations capability. These risks are unlikely to occur as the technologies for implementation are mature, fairly low risk, and system safeguards are a part of the developmental process.

CONCLUSIONS

Distributed operations will offer increased flexibility and agility to units and combatant commanders for both conventional and unconventional operations. The currently fielded command and control systems, fire support systems, and logistics provide an initial operating capability, but the currently fielded systems and accompanying doctrine will not suffice into the 21st century. To achieve maximum impact on future operations and reach its full potential, the Marine Corps must become fully involved in the development of joint command and control, joint fires, and joint logistics. In fact, the only way for the Marine Corps to fully realize the potential of distributed operations is by buying fully into joint interdependence and working with the Army, Navy and Air Force to facilitate the development and procurement of the related technologies and equipment for distributed operations to work. The Marine Corps cannot afford to go it alone in developing the logistics and command and control for fires to satisfy the requirements for distributed operations.

This is a unique time in the history of the Marine Corps and the nation. Both stand on the dawn of a new joint operational capability for use by the Marine Corps to accomplish national tasking. This nexus of concept, doctrine, and enabling technologies occurs only ever so often for a military organization. It occurred before in the early part of the 20th century when the Marine Corps was involved in the small wars of that era and evolved into the amphibious doctrine needed for the Second World War when technology finally matured for the doctrine to be successfully employed. The same opportunity now presents itself to the Marine Corps and the nation. Joint interdependence, new technologies, and an asymmetrical war on terrorism

have created a synergy that supports both the unconventional and conventional capabilities of distributed operations.

The new concepts for joint fires, joint fires command and control, and collaborative engagement of enemy forces are something the Marine Corps has strove for since the 1940s. The Marine Corps MAGTF combined arms team has been on the leading edge of integrating fire and maneuver between all combat arms. It is a natural evolution that the Marine Corps should be drawn to a joint concept that reinforces the combined arms approach it has espoused for so long and has the potential to dramatically facilitate the transformation and utilization of interdependence for the Marine Corps in the new century. The same energy, resources and excitement should be applied to the new initiatives in joint and Army logistics. The new technologies and capabilities for ordering, tracking, and delivering can only assist the Marine Corps move to the distributed operations concept. The Marine Corps has always been lean on tail to provide more capability for its warfighting tooth. These new logistics concepts and systems will make it easier to continue working on lowering the tail to tooth ratio while not compromising combat effectiveness.

The distributed operations concept will work. The Marine Corps must stay engaged with the other Services and joint organizations to ensure the new joint interdependent fires, logistics, and command and control systems contribute to the distributed operations concept. Externally, the push towards joint interdependence appears to be facilitating the change to and operational acceptance of the distributed operations concept. The internal issues of unit size, training, new mission versus additional mission and Marine Corps versus Special Forces appear to be the ones generating the most scrutiny. Those discussions are needed and the outcome will directly affect the fire and logistics support for the fielded units. Regardless of final unit size, it appears the ongoing modernization and fielding of joint interdependent fire and logistics systems will support the eventual outcome of the internal discussions, thus saving the Marine Corps time, energy, and funding.

SUMMARY

The U.S. Marine Corps is pursuing distributed operations as a warfighting concept. The Marine Corps successfully utilized an early attempt at distributed operations in unconventional warfare during the Banana Wars in Haiti and Nicaragua. The Finnish Army attempt was ultimately not successful during the Russo-Finnish War of 1939-40, but the Finnish lack of success was not due to the concept itself. Unfortunately the Finnish were not equipped nor sufficiently manned to engage the Soviets on any kind of parity. They were worn down by

attrition warfare utilized by the Soviet invaders. That said, the length of the Finnish resistance was due in no small part to the use of distributed operations to offset the Soviet numerical advantages. The Marine Corps and Finnish versions of early distributed operations were both hindered by the existing contemporary technology. New technology is enabling a 21 st century distributed operations concept showing great promise in providing flexible and agile response to battle space challenges.

The distributed operations concept of units positioned across a battle space to carry out assigned missions is feasible based upon spiraling technologies and will reach full potential with the new technologies being developed to facilitate a joint interdependent warfighting force. In its current form, distributed operations units could be connected via the Joint Battle Management Command and Control system and LANDWARNET for command and control of missions, the Battle Command Sustainment and Support System (BCS3) for logistics, and the JTF WARNET capability resident in the ADOCS to enable and access joint theater fires. Utilizing these systems, the Marine Corps, Army and Special Operations Forces units could maneuver independently or coalesce into formally structured infantry units to employ conventional infantry skills. These infantry units, employing a new battlefield concept and associated technologies, will provide rapid, flexible, and agile forces to cover a battle space while creating challenges for a potential adversary.

Two key support areas have been addressed from a joint interdependent view to resolve battlefield operating friction and maximize the effectiveness of distributed operations. To obtain fire and logistics support, these distributed forces plug into the theater level fire support system and logistics networks via the respective digital command and control nets being developed for joint use. Fires are controlled and prioritized by the Joint Fires Coordination Center to ensure proper deconfliction and fratricide avoidance. Logistics items are ordered, tracked, and controlled via joint assets into theater nodes and distribution to the service component logistics hubs. The system and ordering unit track the items via the BCS3 until delivered via joint interdependent truck, aviation or joint parachute aerial delivery system assets from one of the Service components.

These two support challenges are being dealt with directly and addressed via joint programs so that interdependence can be effectively leveraged for the benefit of the Marine Corps and the combatant commander. Distributed operations is a viable joint warfighting concept whose time has arrived. Once the internal Marine Corps discussions over unit size, training, and missions are settled, the jointly interdependent fire support, logistics, and command and control systems will be available for the units to plug into and execute the

concept. The critical issue before the Marine Corps is that it must stay engaged in the development and fielding of these new joint interdependent enabling systems and doctrine. If the Marine Corps stays the course in that regard, distributed operations will become a reality and a new joint warfighting concept will mature and become a useful tool for the nation.

WORD COUNT= 5339

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